

**Article 14. Landfills****§66264.300. Applicability.**

The regulations in this article apply to owners and operators of facilities that dispose of hazardous waste in landfills, except as section 66264.1 provides otherwise.

NOTE: Authority cited: Sections 208, 25150 and 25159, Health and Safety Code. Reference: Sections 25150, 25159 and 25159.5, Health and Safety Code; 40 CFR Section 264.300.

**HISTORY**

1. New section filed 5-24-91; operative 7-1-91 (Register 91, No. 22).

**§66264.301. Design and Operating Requirements.**

(a) Any landfill that is not covered by subsection (c) of this section or 66265.301(a) of this chapter shall have a liner system for all portions of the landfill (except for existing portions). The liner system shall have:

(1) a liner that is designed, constructed, and installed to prevent any migration of wastes out of the landfill to the adjacent subsurface soil or ground water or surface water at anytime during the active life (including the closure period) and during post-closure care period of the landfill. The liner shall be constructed of materials that prevent wastes from passing into the liner during the active life of the facility. The liner shall be:

(A) constructed of materials that have appropriate chemical properties and sufficient strength and thickness to prevent failure due to pressure gradients (including static head and external hydrogeologic forces), physical contact with the waste or leachate to which they are exposed, climatic conditions, the stress of installation, and the stress of daily operation;

(B) placed upon a foundation or base capable of providing support to the liner and resistance to pressure gradients above and below the liner to prevent failure of the liner due to settlement, compression, or uplift; and

(C) installed to cover all surrounding earth likely to be in contact with the waste or leachate; and

(2) a leachate collection and removal system immediately above the liner that is designed, constructed, maintained, and operated to collect and remove leachate from the landfill. The Department will specify design and operating conditions in the permit to ensure that the leachate depth over the liner does not exceed 30 cm (one foot). The leachate collection and removal system shall be:

(A) constructed of materials that are:

1. chemically resistant to the waste managed in the landfill and the leachate expected to be generated; and
2. of sufficient strength and thickness to prevent collapse under the pressures exerted by overlying wastes, waste cover materials, and by any equipment used at the landfill; and

(B) designed and operated to function without clogging through the scheduled closure and post-closure period of the landfill.

(b) The owner or operator shall be exempted from the requirements of paragraph (a) of this section if the Department finds, based on a demonstration by the owner or operator, that alternative design and operating practices, together with location characteristics, will prevent the migration of any hazardous constituents of concern (see section 66264.93) into the ground water or surface water at any future time. In deciding whether to grant an exemption, the Department will consider:

- (1) the nature and quantity of the wastes;
- (2) the proposed alternative design and operation;
- (3) the hydrogeologic setting of the facility, including the attenuative capacity and thickness of the liners and soils present between the landfill and ground water or surface water;
- (4) all other factors which would influence the quality and mobility of the leachate produced and the potential for it to migrate to ground water or surface water; and
- (5) the potential for lateral migration of hazardous constituents which could present a threat to public health or the environment.

(c) The owner or operator of each new landfill unit on which construction commences after January 29, 1992, each lateral expansion of a landfill unit on which construction commences after July 29, 1992, and each replacement of an existing landfill unit that is to commence reuse after July 29, 1992 shall install two or more liners and a leachate collection and removal system above and between such liners. The requirements of this subsection shall not apply to landfill units receiving only non-RCRA hazardous waste until February 18, 1996. "Construction commences" is as defined in section 66260.10 of this chapter under "existing facility".

(1)(A) The liner system shall include:

1. A top liner designed and constructed of materials (e.g., a geomembrane) to prevent the migration of hazardous constituents into such liner during the active life and post-closure care period; and

2. A composite bottom liner, consisting of at least two components. The upper component shall be designed and constructed of materials (e.g., a geomembrane) to prevent the migration of hazardous constituents into this component during the active life and post-closure care period. The lower component shall be designed and constructed of materials to minimize the migration of hazardous constituents if a breach in the upper component were to occur. The lower component shall be constructed of at least 3 feet (91 cm) of compacted soil material with a hydraulic conductivity of no more than  $1 \times 10^{-7}$  cm/sec.

(B) The liners shall comply with subsections (a)(1)(A), (B), and (C) of this section.

(2) The leachate collection and removal system immediately above the top liner shall be designed, constructed, operated, and maintained to collect and remove leachate from the landfill during the active life and

post-closure care period. The Department will specify design and operating conditions in the permit to ensure that the leachate depth over the liner does not exceed 1 foot (30 cm). The leachate collection and removal system shall comply with subsections (c)(3)(C) and (D) of this section.

(3) The leachate collection and removal system between the liners, and immediately above the bottom composite liner in the case of multiple leachate collection and removal systems, is also a leak detection system. This leak detection system shall be capable of detecting, collecting, and removing leaks of hazardous constituents at the earliest practicable time through all areas of the top liner likely to be exposed to waste or leachate during the active life and post-closure care period. The requirements for a leak detection system in this subsection are satisfied by installation of a system that is, at a minimum:

(A) Constructed with a bottom slope of one percent or more;

(B) Constructed of granular drainage materials with a hydraulic conductivity of  $1 \times 10^{-2}$  cm/sec or more and a thickness of 1 foot (30.5 cm) or more; or constructed of synthetic or geonet drainage materials with a transmissivity of  $3 \times 10^{-5}$  m<sup>2</sup>/sec or more. In cases where the leak detection system is composed of coarse granular material, there shall be a suitable interface (e.g., geotextile) between the leak detection system and any flexible membrane liner, as needed to prevent the coarse grains from causing a puncture in the flexible membrane liner under the high stress conditions caused by the overlying waste;

(C) Constructed of materials that are chemically resistant to the waste managed in the landfill and the leachate expected to be generated, and of sufficient strength and thickness to prevent collapse under the pressures exerted by overlying wastes, waste cover materials, and equipment used at the landfill;

(D) Designed and operated to minimize clogging during the active life and post-closure care period; and

(E) Constructed with sumps and liquid removal methods (e.g., pumps) of sufficient size to collect and remove liquids from the sump and prevent liquids from backing up into the drainage layer. Each unit shall have its own sump(s). The design of each sump and removal system shall provide a method for measuring and recording the volume of liquids present in the sump and of liquids removed.

(4) The owner or operator shall collect and remove pumpable liquids in the leak detection system sumps to minimize the head on the bottom liner.

(5) The liner system shall be designed, constructed and operated to ensure that leak detection system shall be a minimum of 5 feet above the highest anticipated elevation of groundwater.

(d) The Department may approve alternative design or operating practices to those specified in paragraph (c) of this section if the owner or operator demonstrates to the Department that such design and operating practices, together with location characteristics:

(1) Will prevent the migration of any hazardous constituent into the ground water at least as effectively as the liners and leachate collection and removal systems specified in paragraph (c) of this section; and

(2) Will allow detection of leaks of hazardous constituents through the top liner at least as effectively.

(e) The double liner requirement set forth in subsection (c) of this section shall be waived by the Department for any monofill, if:

(1) the monofill contains only hazardous wastes from foundry furnace emission controls or metal casting molding sand, and such wastes do not contain constituents which would render the wastes hazardous for reasons other than exceeding the soluble threshold limit concentration as described in section 66261.24(a)(2) for non-RCRA hazardous wastes or the characteristic of toxicity as set forth in section 66261.24(a)(1) for wastes with hazardous wastes numbers D004 through D017 for RCRA hazardous wastes; and

(2)(A) 1. The monofill has at least one liner for which there is no evidence that such liner is leaking;

2. the monofill is located more than one-quarter mile from an underground source of drinking water as that term is defined in section 66260.10; and

3. the monofill is in compliance with generally applicable groundwater monitoring requirements for facilities with hazardous waste facility permits; or

(B) the owner or operator demonstrates to the satisfaction of the Department, that the monofill is located, designed and operated so as to assure that there will be no migration of any hazardous constituent into ground water, surface water, or surrounding soils at any future time.

(f) The owner or operator shall design, construct, operate, and maintain a run-on control system capable of preventing flow onto the active portion of the landfill during peak discharge from at least a 25-year storm.

(g) The owner or operator shall design, construct, operate, and maintain a run-off management system to collect and control at least the water volume resulting from a 24-hour, 25-year storm.

(h) Collection and holding facilities (e.g., tanks or basins) associated with run-on and run-off control systems shall be emptied or otherwise managed expeditiously after storms to maintain design capacity of the system.

(i) If the landfill contains any particulate matter which may be subject to wind dispersal, the owner or operator shall cover or otherwise manage the landfill to control wind dispersal.

(j) The Department shall specify in the permit all design and operating practices that are necessary to ensure that the requirements of this section are satisfied.

(k) The landfill shall be designed, constructed, operated and maintained to enable the facility to meet the closure and post-closure requirements of section 66264.310.

(l) The owner or operator of any replacement landfill unit is exempt from subsection (c) of this section if:

(1) The existing unit was constructed in compliance with the design standards of 42 USC section 6924(o)(1)(A)(i) and 42 USC section 6924(o)(5); and

(2) There is reason to believe that the liner is functioning as designed.

NOTE: Authority cited: Sections 25150, 25159 and 58012, Health and Safety Code. Reference: Sections 25150, 25159 and 25159.5, Health and Safety Code; and 40 CFR Section 264.301.

#### HISTORY

1. New section filed 5-24-91; operative 7-1-91 (Register 91, No. 22).
2. Amendment of subsections (b)-(c) and (d), new subsections (c)(1)(A)-(c)(5), (d)(6) and (f)-(f)(2), and amendment of Note filed 7-19-95; operative 8-18-95 (Register 95, No. 29).
3. Change without regulatory effect repealing subsection (b) adopting new subsections (b)-(b)(5), amending subsections (c) and (c)(2), repealing subsections (d)-(d)(6), adopting new subsections (d)-(d)(2) and amending subsection (f)(1) filed 6-30-97 pursuant to section 100, title 1, California Code of Regulations (Register 97, No. 27).
4. Change without regulatory effect amending subsections (c) and (c)(5) filed 10-21-97 pursuant to section 100, title 1, California Code of Regulations (Register 97, No. 43).
5. Amendment of subsection (e)(1) and NOTE filed 10-13-98; operative 11-12-98 (Register 98, No. 42).
6. Change without regulatory effect amending subsection (c) filed 7—1—2004 pursuant to section 100, title 1, California Code of Regulations (Register 2004, No. 27).

#### **§66264.302. Action Leakage Rate.**

(a) The Department shall approve an action leakage rate for landfill units subject to section 66264.301(c) or (d). The action leakage rate is the maximum design flow rate that the leak detection system (LDS) can remove without the fluid pressure head on the bottom liner exceeding 1 foot (30.5 cm) at any given portion of the liner. The action leakage rate shall include an adequate safety margin to allow for uncertainties in the design (e.g., slope, hydraulic conductivity, thickness of drainage material), construction, operation, and location of the LDS, waste and leachate characteristics, likelihood and amounts of other sources of liquids in the LDS, and proposed response actions (e.g., the action leakage rate shall consider decreases in the flow capacity of the system over time resulting from siltation and clogging, rib layover and creep of synthetic components of the system, overburden pressures, etc.).

(b) To determine if the action leakage rate has been exceeded, the owner or operator shall convert the weekly or monthly flow rate from the monitoring data obtained under section 66264.303(c) to an average daily flow rate (gallons per acre per day) for each sump. Unless the Department approves a different calculation, the average daily flow rate for each sump shall be calculated weekly during the active life and closure period, and monthly during the post-closure care period when monthly monitoring is required under section 66264.303(c).

NOTE: Authority cited: Sections 25150 and 25159, Health and Safety Code; and Governor's Reorganization Plan Number 1 of 1991. Reference: Sections 25159 and 25159.5, Health and Safety Code; and 40 CFR Section 264.302.

#### HISTORY

1. New section filed 7-19-95; operative 8-18-95 (Register 95, No. 29).
2. Change without regulatory effect amending subsection (a) and filed 6-30-97 pursuant to section 100, title 1, California Code of Regulations (Register 97, No. 27).

#### **§66264.303. Monitoring and Inspection.**

(a) During construction or installation, liners (except in the case of existing portions of landfills exempt from 66264.301(a)) and cover systems (e.g., membranes, sheets, or coatings) shall be inspected for uniformity, damage, and imperfections (e.g., holes, cracks, thin spots, or foreign materials). Immediately after construction or installation:

- (1) synthetic liners and covers shall be inspected to ensure tight seams and joints and the absence of tears, punctures, or blisters; and
- (2) soil-based and admixed liners and covers shall be inspected for imperfections including lenses, cracks, channels, root holes, or other structural non-uniformities that may cause an increase in the permeability of the liner or cover.

(b) While a landfill is in operation, it shall be inspected weekly and after storms to detect evidence of any of the following:

- (1) deterioration, malfunctions, or improper operation of run-on and run-off control systems;
- (2) proper functioning of wind dispersal control systems, where present;
- (3) the presence of liquids in leak detection systems; and
- (4) the presence of leachate in and proper functioning of collection and removal systems, where present.

(c)(1) An owner or operator required to have a leak detection system under section 66264.301(c) or (d) shall record the amount of liquids removed from each leak detection system sump at least once each week during the active life and closure period.

(2) After the final cover is installed, the amount of liquids removed from each leak detection system sump shall be recorded at least monthly. If the liquid level in the sump stays below the pump operating level for two consecutive months, the amount of liquids in the sumps shall be recorded at least quarterly. If the liquid level in the sump stays below the pump operating level for two consecutive quarters, the amount of liquids in the sumps shall be recorded at least semi-annually. If at any time during the post-closure care period the pump operating level is exceeded at units on quarterly or semi-annual recording schedules, the owner or operator shall return to monthly recording of amounts of liquids removed from each sump until the liquid level again stays below the pump operating level for two consecutive months.

(3) "Pump operating level" is a liquid level proposed by the owner or operator and approved by the Department based on pump activation level, sump dimensions, and level that avoids backup into the drainage layer and minimizes head in the sump.

NOTE: Authority cited: Sections 25150 and 25159, Health and Safety Code; and Governor's Reorganization Plan Number 1 of 1991. Reference: Sections 25150, 25159 and 25159.5, Health and Safety Code; and 40 CFR Section 264.303.

#### HISTORY

1. New section filed 5-24-91; operative 7-1-91 (Register 91, No. 22).
2. New subsections (c)(1)-(3) and amendment of Note filed 7-19-95; operative 8-18-95 (Register 95, No. 29).

#### **§66264.304. Response Actions.**

(a) The owner or operator of landfill units subject to section 66264.301(c) or (d) shall have an approved response action plan before receipt of waste. The response action plan shall set forth the actions to be taken if the action leakage rate has been exceeded. At a minimum, the response action plan shall describe the actions specified in subsection (b) of this section.

(b) If the flow rate into the leak detection system exceeds the action leakage rate for any sump, the owner or operator shall:

- (1) Notify the Department in writing of the exceedence within 7 days of the determination;
- (2) Submit a preliminary written assessment to the Department within 14 days of the determination, as to the amount of liquids, likely sources of liquids, possible location, size, and cause of any leaks, and short-term actions taken and planned;
- (3) Determine to the extent practicable the location, size, and cause of any leak;
- (4) Determine whether waste receipt should cease or be curtailed, whether any waste should be removed from the unit for inspection, repairs, or controls, and whether or not the unit should be closed;
- (5) Determine any other short-term and longer-term actions to be taken to mitigate or stop any leaks; and
- (6) Within 30 days after the notification that the action leakage rate has been exceeded, submit to the Department the results of the analyses specified in subsections (b)(3), (4), and (5) of this section, the results of actions taken, and actions planned. Monthly thereafter, as long as the flow rate in the leak detection system exceeds the action leakage rate, the owner or operator shall submit to the Department a report summarizing the results of any remedial actions taken and actions planned.

(c) To make the leak and/or remediation determinations in subsections (b)(3), (4), and (5) of this section, the owner or operator shall:

- (1)(A) Assess the source of liquids and amounts of liquids by source,
- (B) Conduct a fingerprint, hazardous constituent, or other analyses of the liquids in the leak detection system to identify the source of liquids and possible location of any leaks, and the hazard and mobility of the liquid; and
- (C) Assess the seriousness of any leaks in terms of potential for escaping into the environment; or
- (2) Document why such assessments are not needed.

NOTE: Authority cited: Sections 25150 and 25159, Health and Safety Code; and Governor's Reorganization Plan Number 1 of 1991. Reference: Sections 25159 and 25159.5, Health and Safety Code; and 40 CFR Section 264.304.

#### HISTORY

1. New section filed 7-19-95; operative 8-18-95 (Register 95, No. 29).

#### **§66264.309. Surveying and Recordkeeping.**

The owner or operator of a landfill shall maintain the following items in the operating record required under section 66264.73:

- (a) on a map, the exact location and dimensions, including depth, of each cell with respect to permanently surveyed benchmarks with horizontal and vertical controls; and
- (b) the contents of each cell and the approximate location of each hazardous waste type within each cell.

NOTE: Authority cited: Sections 208, 25150 and 25159, Health and Safety Code. Reference: Sections 25150, 25159 and 25159.5, Health and Safety Code; 40 CFR Section 264.309.

#### HISTORY

1. New section filed 5-24-91; operative 7-1-91 (Register 91, No. 22).

#### **§66264.310. Closure and Post-Closure Care.**

(a) At final closure of the landfill or upon closure of any cell, the owner or operator shall cover the landfill or cell with a final cover designed and constructed to:

- (1) prevent the downward entry of water into the closed landfill throughout a period of at least 100 years;
- (2) function with minimum maintenance;
- (3) promote drainage and minimize erosion or abrasion of the cover;
- (4) accommodate settling and subsidence so that the cover's integrity is maintained;
- (5) accommodate lateral and vertical shear forces generated by the maximum credible earthquake so that the integrity of the cover is maintained;
- (6) have a permeability less than or equal to the permeability of any bottom liner system or natural subsoils present; and
- (7) conform to the provisions of subsections (e) through (r) of section 66264.228, except that the Department shall grant a variance from any requirement of subsections (e) through (r) which the owner or operator demonstrates

to the satisfaction of the Department is not necessary to protect public health, water quality or other environmental quality.

(b) After final closure, the owner or operator must comply with all post-closure requirements contained in sections 66264.117 through 66264.120, including maintenance and monitoring throughout the post-closure care period specified in the permit under section 66264.117. The owner or operator must:

(1) maintain the integrity and effectiveness of the final cover, including making repairs to the cap as necessary to correct the effects of settling, subsidence, erosion, or other events;

(2) continue to operate the leachate collection and removal system until leachate is no longer detected;

(3) maintain and monitor the groundwater monitoring system and comply with all other applicable requirements of article 6 of this chapter;

(4) prevent run-on and run-off from eroding or otherwise damaging the final cover;

(5) protect and maintain surveyed benchmarks used in complying with section 66264.309, and

(6) maintain and monitor the leak detection system in accordance with Sections 66264.301(c)(3)(D) and (c)(4) and 66264.303(c), and comply with all other applicable leak detection system requirements of this part;

(c) Unless the owner or operator can demonstrate to the satisfaction of the Department that significant amounts of toxic or flammable gas or vapor will not be emitted by waste and that no gas will be emitted that is capable of disrupting the cover or causing other property damage, the owner or operator shall provide a control system designed to prevent migration of gas. The control system shall be designed to collect gases that are emitted from the buried waste and convey gas or vapor to a flare, incinerator or treatment device that will render the gas or vapor harmless to public health or safety, or to a collection system that allows gas to be exported for use or treatment elsewhere. Any gas collection system used shall be designed to withstand pressures that may result from overburden weight of structures that may overlie the cover, and traffic that may occur.

(d) If gas or vapor that can be expected to be emitted from buried waste after closure would be flammable or toxic, the owner shall describe in the closure plan measures to render such gases or vapors harmless, or export gas from the site, for as many years as they would be emitted from the waste, and shall estimate the cost of such measures as part of the cost of closure and post-closure care of the facility. In that case, the closure plan shall provide a map showing:

(1) the number, spacing and locations of wells to be used for gas extraction;

(2) the location and spacing of piping. Also in that case, the closure plan shall describe the equipment and capability of equipment, to be provided to render gases or vapor harmless or export gas for use or treatment elsewhere. If pumping would be needed to assure that such gas is withdrawn at a rate sufficient to avoid hazardous accumulation of gas or vapor or uncontrolled migration of such gas or vapor or uncontrolled migration of such gas or vapor from the facility, the owner or operator shall describe measures to provide such pumping for as many years as such gas or vapor will be emitted from the waste, and shall estimate the cost of such measures as part of the cost of closure and post-closure care of the facility. The closure plan shall in that case describe the type of pump, volume of gas the pump can move per unit time, and the estimated distances from the pump from which gas can be extracted from the landfill. The owner or operator shall provide such measures as needed.

NOTE: Authority cited: Sections 25150 and 25159, Health and Safety Code; and Governor's Reorganization Plan Number 1 of 1991. Reference: Sections 25159, 25159.5 and 25245, Health and Safety Code; and 40 CFR Section 264.310.

#### HISTORY

1. New section filed 5-24-91; operative 7-1-91 (Register 91, No. 22).

2. Amendment of subsections (b)(4)-(5), new subsection (b)(6) and amendment of Note filed 7-19-95; operative 8-18-95 (Register 95, No. 29).

#### **§66264.312. Special Requirements for Ignitable or Reactive Waste.**

(a) Except as provided in section 66264.316, ignitable or reactive waste shall not be placed in a landfill, unless the waste and landfill meet all applicable requirements of chapter 18 of this division, and the waste is treated, rendered, or mixed before or immediately after placement in a landfill so that:

(1) the resulting waste, mixture, or dissolution of material no longer meets the definition of ignitable or reactive waste under 66261.21 or 66261.23 of this chapter; and

(2) section 66264.17(b) is complied with.

NOTE: Authority cited: Sections 208, 25150 and 25159, Health and Safety Code. Reference: Sections 25150, 25159 and 25159.5, Health and Safety Code; 40 CFR Section 264.312.

#### HISTORY

1. New section filed 5-24-91; operative 7-1-91 (Register 91, No. 22).

#### **§66264.313. Special Requirements for Incompatible Wastes.**

Incompatible wastes, or incompatible wastes and materials, (see Appendix V of this chapter for examples) shall not be placed in the same landfill cell, unless subsection 66264.17(b) is complied with.

NOTE: Authority cited: Sections 208, 25150 and 25159, Health and Safety Code. Reference: Sections 25150, 25159 and 25159.5, Health and Safety Code; 40 CFR Section 264.313.

#### HISTORY

1. New section filed 5-24-91; operative 7-1-91 (Register 91, No. 22).

**§66264.314. Special Requirements for Bulk and Containerized Liquids.**

(a) Effective February 2, 1985, the placement of bulk or non-containerized liquid hazardous waste or hazardous waste containing free liquids (whether or not sorbents have been added) in any landfill is prohibited.

(b) To demonstrate the absence or presence of free liquids in either a containerized or a bulk waste, the facility shall use Method 9095 (as described in "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods--EPA publication SW-846, Third Edition, as incorporated by reference in section 66260.11).

(c) Containers holding free liquids shall not be placed in a landfill unless:

- (1) all free-standing liquid: (A) has been removed by decanting or other methods; (B) has been mixed with absorbent or solidified so that free-standing liquid is no longer observed; or (C) has been otherwise eliminated; or
- (2) the container is very small, such as an ampule; or
- (3) the container is designed to hold free liquids for use other than storage, such as a battery or capacitor; or
- (4) the container is a lab pack as defined in section 66264.316 and is disposed of in accordance with section 66264.316.

(d) Sorbents used to treat free liquids to be disposed of in landfills shall be nonbiodegradable.

Nonbiodegradable sorbents are: materials listed or described in subsection (d)(1) of this section; materials that pass one of the tests in subsection (d)(2) of this section; or materials that are determined by USEPA to be nonbiodegradable through the 40 CFR part 260 petition process.

(1) Nonbiodegradable sorbents.

(A) Inorganic minerals, other inorganic materials, and elemental carbon (e.g., aluminosilicates, clays, smectites, Fuller's earth, bentonite, calcium bentonite, montmorillonite, calcined montmorillonite, kaolinite, micas (illite), vermiculites, zeolites; calcium carbonate (organic free limestone); oxides/hydroxides, alumina, lime, silica (sand), diatomaceous earth; perlite (volcanic glass); expanded volcanic rock; volcanic ash; cement kiln dust; fly ash; rice hull ash; activated charcoal/activated carbon); or

(B) High molecular weight synthetic polymers (e.g., polyethylene, high density polyethylene (HDPE), polypropylene, polystyrene, polyurethane, polyacrylate, polynorborene, polyisobutylene, ground synthetic rubber, cross-linked allylstyrene and tertiary butyl copolymers). This does not include polymers derived from biological material or polymers specifically designed to be degradable; or

(C) Mixtures of these nonbiodegradable materials.

(2) Tests for nonbiodegradable sorbents.

(A) The sorbent material is determined to be nonbiodegradable under ASTM Method G21-90-Standard Practice for Determining Resistance of Synthetic Polymer Materials to Fungi; or

(B) The sorbent material is determined to be nonbiodegradable under ASTM Method G22-76 (1984b)-Standard Practice for Determining Resistance of Plastics to Bacteria; or

(C) The sorbent material is determined to be non-biodegradable under OECD test 301B: (CO<sub>2</sub> Evolution (Modified Strum Test))

(e) Effective November 8, 1985 the placement of any liquid which is not a hazardous waste in a landfill is prohibited unless the owner or operator of such landfill demonstrates to the Department, or the Department determines, that:

(1) the only reasonably available alternative to the placement in such landfill is placement in a landfill or unlined surface impoundment, whether or not permitted or operating under interim status, which contains, or may reasonably be anticipated to contain, hazardous waste; and

(2) placement in such owner or operator's landfill will not present a risk of contamination of any underground source of drinking water (as that term is defined in section 66260.10).

NOTE: Authority cited: Sections 25150, 25159 and 58012, Health and Safety Code. Reference: Sections 25150, 25159, 25159.5 and 25179.5, Health and Safety Code; 40 CFR Section 264.314.

**HISTORY**

1. New section filed 5-24-91; operative 7-1-91 (Register 91, No. 22).

2. Amendment of subsections (a) and (c)(1), new subsections (d)-(d)(2)(B), subsection relettering and amendment of Note filed 8-8-95 as an emergency; operative 8-8-95 (Register 95, No. 32). A Certificate of Compliance must be transmitted to OAL by 12-6-95 or emergency language will be repealed by operation of law on the following day.

3. Reinstatement of section as it existed prior to emergency amendment filed 9-15-95 by operation of Government Code section 11346.1(f) (Register 95, No. 37).

4. Amendment of subsections (a) and (b), new subsections (d)-(d)(2)(C), subsection relettering, and amendment of NOTE filed 10-13-98; operative 11-12-98 (Register 98, No. 42).

5. New subsection (d)(2)(A) and amendment of NOTE filed 3-17-99; operative 4-16-99 (Register 99, No. 12).

**§66264.315. Special Requirements for Containers.**

Unless they are very small, such as an ampule, containers shall be either:

- (a) at least 90 percent full when placed in the landfill; or
- (b) crushed, shredded, or similarly reduced in volume to the maximum practical extent before burial in the landfill.

NOTE: Authority cited: Sections 208, 25150 and 25159, Health and Safety Code. Reference: Sections 25150, 25159

and 25159.5, Health and Safety Code; 40 CFR Section 264.315.

#### HISTORY

1. New section filed 5-24-91; operative 7-1-91 (Register 91, No. 22).

#### **§66264.316. Disposal of Small Containers of Hazardous Waste in Overpacked Drums (Lab Packs).**

Small containers of hazardous waste in overpacked drums (lab packs) may be placed in a landfill if the following requirements are met.

(a) hazardous waste shall be packaged in non-leaking inside containers. The inside containers shall be of a design and constructed of a material that will not react dangerously with, be decomposed by, or be ignited by the contained waste. Inside containers shall be tightly and securely sealed. The inside containers shall be of the size and type specified in the Department of Transportation (DOT) hazardous materials regulations (49 CFR Parts 173, 178, and 179), if those regulations specify a particular inside container for the waste.

(b) The inside containers must be overpacked in an open head DOT-specification metal shipping container (49 CFR Parts 178 and 179) of no more than 416-liter (110 gallon) capacity and surrounded by, at a minimum, a sufficient quantity of sorbent material, determined to be nonbiodegradable in accordance with section 66264.314(d), to completely sorb all of the liquid contents of the inside containers. The metal outer container shall be full after it has been packed with inside containers and sorbent material.

(c) The sorbent material used shall not be capable of reacting dangerously with, being decomposed by, or being ignited by the contents of the inside containers, in accordance with section 66264.17(b).

(d) Incompatible wastes, as defined in article 1 of this chapter, shall not be placed in the same outside container.

(e) Reactive wastes, other than cyanide- or sulfide-bearing waste as defined in section 66261.23(a)(5) of this chapter, shall be treated or rendered non-reactive prior to packaging in accordance with subsections (a) through (d) of this section. Cyanide and sulfide-bearing reactive waste may be packed in accordance with subsections (a) through (d) of this section without first being treated or rendered non-reactive provided that the cyanide concentration is less than 1000 mg/l.

(f) Such disposal is in compliance with the requirements of chapter 18 of the division. Persons who incinerate lab packs according to the requirements of section 66268.42(c)(1) may use fiber drums in place of metal outer containers. Such fiber drums shall meet DOT specifications in 49 CFR 173.12 and be overpacked according to the requirements of subsection (b) of this section.

NOTE: Authority cited: Sections 25150, 25159, 58004 and 58012, Health and Safety Code. Reference: Sections 25150, 25159 and 25159.5, Health and Safety Code; 40 CFR Section 264.316.

#### HISTORY

1. New section filed 5-24-91; operative 7-1-91 (Register 91, No. 22).

2. Amendment of subsections (b)-(c) and Note filed 8-8-95 as an emergency; operative 8-8-95 (Register 95, No. 32). A Certificate of Compliance must be transmitted to OAL by 12-6-95 or emergency language will be repealed by operation of law on the following day.

3. Reinstatement of section as it existed prior to emergency amendment filed 9-15-95 by operation of Government Code section 11346.1(f) (Register 95, No. 37).

4. Amendment of section heading and subsection (f) filed 1-31-96; operative 1-31-96 (Register 96, No. 5).

5. Amendment of subsections (b) and (c) and amendment of NOTE filed 10-13-98; operative 11-12-98 (Register 98, No. 42).

#### **§66264.317. Special Requirements for Hazardous Wastes F020, F021, F022, F023, F026, and F027.**

(a) Hazardous Wastes F020, F021, F022, F023, F026, and F027 shall not be placed in a landfill unless the owner or operator operates the landfill in accord with a management plan for these wastes that is approved by the Department pursuant to the standards set out in this paragraph, and in accord with all other applicable requirements of this chapter. The factors to be considered are:

(1) the volume, physical, and chemical characteristics of the wastes, including their potential to migrate through the soil or to volatilize or escape into the atmosphere;

(2) the attenuative properties of underlying and surrounding soils or other materials;

(3) the mobilizing properties of other materials co-disposed with these wastes; and

(4) the effectiveness of additional treatment, design, or monitoring requirements.

(b) The Department shall impose additional design, operating, and monitoring requirements for landfills managing hazardous wastes F020, F021, F022, F023, F026, and F027 if necessary to reduce the possibility of migration of these wastes to ground water, surface water, or air so as to protect human health and the environment.

NOTE: Authority cited: Sections 208, 25150 and 25159, Health and Safety Code. Reference: Sections 25150, 25159 and 25159.5, Health and Safety Code; 40 CFR Section 264.317.

#### HISTORY

1. New section filed 5-24-91; operative 7-1-91 (Register 91, No. 22).

#### **§66264.318. Special Requirements for Nonliquid Waste.**

(a)(1) Effective January 1, 1995 or the effective date of the applicable treatment standard found in chapter 18 of division 4.5 of Titles 22 and 26 of California Code of Regulations, whichever is later, all nonliquid hazardous

waste, bulk or containerized, shall contain less than 50 percent moisture by weight prior to disposal in a hazardous waste landfill.

(2) The requirements in (a)(1) cannot be met by adding material that acts solely as a sorbent, unless determined to be nonbiodegradable in accordance with section 66264.314(d) and waste is disposed in a container, or diluting agent.

The moisture content shall be determined by pulverizing the entire sample coarsely on a clean surface by hand, using rubber gloves. Twenty-five to 50 grams shall be placed in a prepared evaporating dish and weighed. The sample shall then be placed in an oven at 103 to 105 degrees centigrade for 1 hour. The dish shall be cooled in a desiccator to 20 degrees centigrade for 1 hour and then reweighed. The cycle of drying, cooling, and weighing shall be repeated until a constant weight is obtained or until the weight loss is less than 4 percent of the previous weight.

(b) The calculation in subsection (a) shall be in accordance with the following formula:

$$\text{Percent Moisture} = [(A-B)/(A-C)] \times 100$$

Where:

A = Weight of evaporating dish and original sample, grams

B = Weight of evaporating dish and oven dried sample, grams

C = Weight of evaporating dish, grams.

(c)(1) Lab Packs as defined in section 66264.316 are exempt from section 66264.318(a).

(2) Asbestos-containing waste is exempt from section 66264.318(a) if the waste is disposed according to the requirements of the regional water quality control board in (1) a class I landfill, or (2) segregated areas within a nonclass I landfill.

NOTE: Authority cited: Sections 25150, 25179.5, 58004 and 58012, Health and Safety Code. Reference: Sections 25143.7, 25159, 25159.5, 25179.5(b) and 25179.9, Health and Safety Code.

#### HISTORY

1. New section filed 5-24-91; operative 7-1-91 (Register 91, No. 22).
2. Amendment of subsections (a) and (c) filed 10-10-91 as an emergency; operative 10-10-91 (Register 91, No. 52). A Certificate of Compliance must be transmitted to OAL 2-7-92 or emergency language will be repealed by operation of law on the following day.
3. Amendment of subsections (a) and (c) refiled 2-7-92 as an emergency; operative 2-7-92 (Register 92, No. 12). A Certificate of Compliance must be transmitted to OAL 6-8-92 or emergency language will be repealed by operation of law on the following day.
4. Amendment of subsections (a) and (c) refiled 5-12-92 as an emergency; operative 6-5-92 (Register 92, No. 20). A Certificate of Compliance must be transmitted to OAL 9-9-92 or emergency language will be repealed by operation of law on the following day.
5. Amendment of subsections (a) and (c) refiled 9-14-92 as an emergency; operative 10-2-92 (Register 92, No. 38). A Certificate of Compliance must be transmitted to OAL 2-1-92 or emergency language will be repealed by operation of law on the following day.
6. Certificate of Compliance as to 9-14-92 order including amendment of subsection (c)(2) and Note transmitted to OAL 12-23-92 and filed 2-8-93; (Register 93, No. 7).
7. Amendment of subsection (a)(1) filed 5-5-94 as an emergency; operative 5-5-94 (Register 94, No. 18). A Certificate of Compliance must be transmitted to OAL by 9-2-94 or emergency language will be repealed by operation of law on the following day.
8. Amendment of subsection (a)(1) refiled 8-22-94 as an emergency; operative 8-22-94 (Register 94, No. 34). A Certificate of Compliance must be transmitted to OAL by 12-20-94 or emergency language will be repealed by operation of law on the following day.
9. Amendment of subsection (a)(1) refiled 12-22-94 as an emergency, including amendment of subsection (c)(1); operative 12-20-94 (Register 94, No. 51). A Certificate of Compliance must be transmitted to OAL 4-19-95 or emergency language will be repealed by operation of law on the following day.
10. Amendment of subsections (a)(1) and (c)(1) refiled 4-17-95 as an emergency; operative 4-17-95 (Register 95, No. 16). A Certificate of Compliance must be transmitted to OAL 8-15-95 or emergency language will be repealed by operation of law on the following day.
11. Amendment of subsections (a)(1)-(2), (c)(1) and Note refiled 8-8-95 as an emergency; operative 8-8-95 (Register 95, No. 32). A Certificate of Compliance must be transmitted to OAL by 12-6-95 or emergency language will be repealed by operation of law on the following day.
12. Certificate of Compliance as to 8-8-95 order transmitted to OAL 8-3-95 and filed 9-15-95 (Register 95, No. 37).
13. Reinstatement of subsection (a)(2) as it existed prior to emergency amendment filed 9-15-95 by operation of Government Code section 11346.1(f) (Register 95, No. 37).
14. Amendment of subsection (a)(2) and NOTE filed 10-13-98; operative 11-12-98 (Register 98, No. 42).